

Listing of Claims

1. (Currently Amended) A method of expanding the functional capabilities of portable electronic host devices with user-friendly modes, wherein a host device has a quick-connect functional expansion module associated therewith, comprising:

at each installation of a given functional expansion module supporting an expansion user interface, the module and the host device recognizing each other;

on a first installation of the given functional expansion module in the host device, performing a series of checking operations automatically to identify an application of the host device controllable by the functional expansion module and determine vocabulary data defining user interface command correspondence between expansion user interface commands and application commands which designate software actions to be performed by the application; the user of the host device selecting to activate the available expansion; and

following upon a given application provided by the host device being selected for activation, storing the configuration and functions required for each application vocabulary data in the host device for host device access at a subsequent installation of the functional expansion module so as to obviate the need to subsequently perform the series of checking operations for that functional expansion module.

2. (Currently Amended) A method according to Claim 1, wherein the step of performing the series of checking operations comprises:

listing ~~the~~ applications installed in the host device;

checking said functional expansion module for user interface compatibility with each host device application;

searching ~~out the~~ for required modes to implement the expansion user interface of the functional expansion module for each application , ~~for each application or the first time that an application is called to work~~; and

constructing the ~~{a}~~ “vocabulary” data of correspondence between the ~~minimum of functions~~ user interface commands afforded by the functional expansion module and the ~~minimum of functions~~ user interface commands demanded by the application in the host device.

3. (Canceled).

4. (Canceled).

5. (Currently Amended) A system, comprising:

a portable electronic host device with expanded function capability, the portable electronic host device having an operating system supporting an application controlled through a host user interface; and

a quick-connect function-expanding module, comprising:

a host device loading and connecting program;

an expansion module control program supporting an expansion user interface; and

an API (Application Programming Interface) for the module to dialog with the operating system of the host device;

wherein the host device stores ~~includes~~ tables of correspondence between the application applications and the ~~commands of the installed~~ function-expanding module and an operating system path for detaining the functions to be expanded defining user interface command correspondence between expansion user interface commands and application commands which designate software actions to be performed by the application, the stored tables accessed at each installation of the module through the expanded function capability to the portable electronic host device.

6. (New) A method for interconnecting a functional expansion module to a portable electronic host device, comprising:

detecting interconnection of the functional expansion module to the portable electronic host device;

checking if the portable electronic host device has previously stored data relating to necessary procedures for activating that functional expansion module and setting that functional expansion module to act as an expanded user interface for the portable electronic host device;

if so, implementing the previously stored data for activating and setting;

if not, interfacing for communication between the functional expansion module and the portable electronic host device to determine the necessary procedures, wherein interfacing comprises:

identifying applications resident on the portable electronic host device;

checking whether an expansion user interface functionality provided by the functional expansion module is applicable to one or more of the host device applications;

searching, with respect to each applicable host device application, for modes and user interfaces needed for use in implementing the expansion functionality through that application; and

defining a vocabulary of correspondence between a minimum of expanded user interface functions provided by the functional expansion module and a minimum of user interface functions demanded by the host device; and

storing those necessary procedures by the portable electronic host device for subsequent use in connection with a later detected interconnection of that functional expansion module so as

to obviate the need to interface at each detected interconnection in order to set that functional expansion module for use by the portable electronic host device.

7. (New) The method of claim 6 wherein the necessary procedures comprise certain procedures implemented in order to activate the functional expansion module and set up the function expansion module for use in cooperation with the host device.

8. (New) The method of claim 6 wherein the modes needed for use comprise listing user interface commands for resident applications that can be extended to the expanded user interface operation of the functional expansion module.

9. (New) The method of claim 6 wherein the modes needed for use comprise the implementation of fresh resources by the host device to support operation of the functional expansion module.

10. (New) A method for interconnecting a functional expansion module to a portable electronic host device, comprising:

receiving a functional expansion module by a portable electronic host device, the functional expansion module providing certain functions and operable responsive to certain received user commands;

identifying applications resident on the portable electronic host device which match functional capabilities of the received functional expansion module, each identified resident application having certain commands to which the resident application responds;

at a first reception of the functional expansion module, defining a command vocabulary of correspondence between the certain received user commands of the functional expansion module and the certain commands to which the resident application responds so as to allow the certain received user commands to control operation of the identified resident applications; and

storing that command vocabulary of correspondence in the host device for access by the host device at a subsequent reception of the functional expansion module so as to obviate the need at such subsequent reception to perform the defining of the command vocabulary of correspondence.

11. (New) The method of claim 10 wherein the functional expansion module comprises a voice recognition module that functions to recognize received user voice commands and the command vocabulary of correspondence links recognized voice commands to the certain commands to which the resident application responds.

12. (New) The method of claim 10 wherein the certain commands comprise designation of certain software actions to be performed by the resident application.

13. (New) A method for interconnecting a functional expansion module to a portable electronic host device, comprising:

receiving a functional expansion module by a portable electronic host device, the functional expansion module providing an expansion user interface;

identifying applications resident on the portable electronic host device which make use of a user interface in their functional operation, each identified resident application having an application user interface;

at a first reception of the functional expansion module, defining a vocabulary of correspondence between the expansion user interface and each of the application user interfaces so as to allow the expansion user interface of the functional expansion module to control operation of the identified resident applications; and

storing that vocabulary of correspondence in the host device for access by the host device at a subsequent reception of the functional expansion module so as to obviate the need at such subsequent reception to perform the defining of the vocabulary of correspondence.

14. (New) The method of claim 13 wherein the functional expansion module comprises a voice recognition module as the expansion user interface that functions to recognize received user voice commands and the vocabulary of correspondence links recognized user voice commands to the application user interface to which the resident application responds.

15. (New) The method of claim 13 wherein the application user interface supports certain commands, mapped by the vocabulary of correspondence to expansion user interface commands, which designate certain software actions to be performed by the resident application.